

ABSTRACT

DUAL MEMORY CHANNEL INTERLEAVING FOR GRAPHICS AND MPEG

Embodiments of the present invention provide a method and apparatus for optimally mapping a tiled memory surface to two memory channels, operating in an interleaved fashion, maximizing the memory efficiency of the two channels, while maintaining the desired access granularity. In particular, an incoming request address is used to generate memory addresses for memory channels based on tile and request parameters. The memory controller stores the set of tiled data in the memory in a format such that selected sets of tiled data are stored in alternating channels of memory, such that data blocks are accessible at the same time, as opposed to sequentially. Thus if the memory controller received a block of data from a source, such as a graphics engine, the memory controller would store portions of the block of data within a single tile in the memory, partitioned such that it is retrievable via alternate channels of memory at the same time.